



RAPTOR RESEARCH NEWS

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Editors: Byron E. Harrell, Zoology Dept., University
of South Dakota, Vermillion, S. Dak.
Donald V. Hunter, Jr., Centerville, S. Dak.

Editors' Note. This issue is a little smaller than usual; one major item has been held for the next issue to avoid further delay. Please correct the January issue number to 1.

Breeding Project Information Exchange. B.P.I.E. numbers 9 and 10 were issued June 3, 1969. In No. 9 Jimmy White (Cypress, Calif.) reports on 1968 experiences with Harris Hawk. Two eggs were laid April 24 and 28, the eggs hatched May 28 and 31, and the young left the nest July 24. He also mentions the diet of rats, chicks, and chicken necks.

In No. 10 R. J. Hutchings (Hampshire, England) describes his facilities for breeding a pair of British Kestrels. He describes briefly the behavior and feeding of the two birds which should be of reproductive age in 1969.

"Birds of Prey of Northeastern United States." This is the title of a new 16 mm sound color motion picture issued by the Maryland Department of Game and Inland Fish (State Office Building, Annapolis, Md. 21401). Their announcement states that David J. Smith took eight years to produce this film which shows 32 species of raptors, some of which, however, are exotic to the region in the title. There are sound recordings of calls as well as ultra slow motion photography. This 35 minute film can be purchased for \$250.

The Society for the Preservation of Birds of Prey. This is the name of a society which has just sent us vol. 4, nos. 1 & 2 of their newsletter. The following information was also sent:

The Society For the Preservation of Birds of Prey is a private and independent national conservation organization. Founded in July 1966 as a non-profit organization, the Society's main objective is to increase knowledge, interest, and understanding of Birds of prey.

Although the Society is not directly affiliated with any other group, we join with other organizations in cooperating for the conservation of all our natural resources. Currently the Society

holds membership in the following organizations: National Audubon Society; Los Angeles Audubon Society; National Wildlife Federation; Hawk Mountain Sanctuary Association; Santa Monica Nature Club; Save the Redwoods League; and The Wilderness Society.

The Society publishes a quarterly newsletter, The California Condor, featuring articles of interest about birds of prey; written by people who know and admire them, and people who want to do something to forestall the destruction of these majestic birds. The Society also offers its members the opportunity to visit and learn about birds of prey first hand--a series of field trips are offered quarterly each year, and participants are taken into wilderness areas to study and photograph the species of birds found in that locality. In addition, films will be shown to the interest of members, and at monthly meetings other plans and objectives of the Society will be discussed.

The Society for the Preservation of Birds of Prey is supported by membership dues, contributions, and bequests from individual parties. The Society does not accept large donations over which support the amount of mailing and publishing the newsletter, field trips, and filming costs.

Membership Application blanks are available to interested individuals by writing the Society's headquarters in Pacific Palisades, California. The Society for the Preservation of Birds of Prey, 1429 North Amalfi Drive, Pacific Palisades, California 90272. The membership fee is \$2.00.

Advertisement:

AN EXTENSIVE BIBLIOGRAPHY ON FALCONRY, EAGLES, HAWKS, FALCONS AND OTHER DIURNAL BIRDS OF PREY. PART I: FALCONRY AND EAGLES

In the next two months notices and advertisements promoting the sale of this handy publication will be appearing in several major ornithological periodicals. Judging from the sales to date, the remaining copies of the bibliography could go very quickly once exposed to thousands of ornithologists and libraries through the distribution of Condor, Auk, Wilson Bulletin and Bird Study. Thus far advertisements have appeared only in Hawk Chalk and Raptor Research News, in order that members of NAFA and RRF have first crack at them. Since purchase of any and all parts will reserve (until six months after all 3 parts are out) the matching numbered copies of all 3 parts, it might be wise to purchase Part I at this time, if you intend to obtain a set at all. When copies of any part are sold to 1000 different people, sale to new subscribers will cease for six months. After that time unmatched sets will be sold.

Again, there are only 1000 copies and a large scale advertising campaign is beginning. Order now to assure your set is reserved. For further information write Richard R. Olendorff, Aggie Village 7-D, Fort Collins, Colorado 80521.

Important Raptor Books are Published. Of interest to all of our readers will be the following books which we hope to have reviewed in detail in the future:

Hickey, Joseph J. (Ed.) 1969. Peregrine Falcon Populations; Their Biology and Decline. 618 pp., 60 photographs. Madison: Univ. of Wisc. Press. \$10.00

Brown, Leslie, and Dean Amadon 1969. Eagles, Hawks and Falcons of the World. 2 vols., 946 pp., 311 illus. New York: McGraw-Hill. \$59.50

"Wildlife Center Short of Space." This newspaper article is from County News (Md.), May 29, 1969:

The Patuxent Wildlife Research Center, between Laurel and Bowie, has an "urgent" need for land to be used for studies of the vanishing species of American wildlife.

In a recent release, the Department of Chesapeake Bay Affairs said the Endangered Wildlife Research Station at the center is short about 470 acres of land needed for experiments designed to save the vanishing species, which include the whooping crane, bald eagle and California condor, among others.

The land is needed for propagation and conditioning pens and other facilities at the station, where scientists plan to hold 50 to 100 pairs of 100 or more species.

The department said that it is "vital" that the land be acquired now, since demand for property is rapidly increasing and prices are "skyrocketing."

The 470 acres are expected to cost \$1.5 million, the department said. "Funds are available for this, if Congress only will act," it noted, citing a 1965 law authorizing such appropriations.

But the department also cited another federal law limiting the acquisition funds to \$750,000 in this area, without another act of Congress.

With funds presently in view, about 180 acres adjacent to the research area can be purchased. But Rep. Edward A. Garmatz, D-Md., chairman of the House Merchant Marine and Fisheries Committee, has introduced a bill that would provide authority for the full \$1.5 million.

The Department of Chesapeake Bay Affairs has asked residents to support the bill (H.R. 8327) by writing to Garmatz at 1334 Longworth House Office Building, or to Rep. Larry Hogan, 1027 Longworth House Office Building, in Washington.

Notes from KINGFISHER, Volume 4, Number 4 (March-April 1969).

"Ospreys Revive. The ospreys that breed along the Westport River, Massachusetts, had the best breeding season for years in 1968, possibly due to a State ban on DDT in the river's watershed. They laid 48 eggs, hatched 30 young and fledged 22 of them, the corresponding figures for 1967 being 30, 8 and 6. (*Mass. Audubon Newsletter*, November)."

"And Now the Biphenyls. A new danger to wildlife is implicit in the news that the polychlorinated biphenyls, which are in some ways similar to the chlorinated hydrocarbons, and are used in the manufacture of plastics, have found their way into the tissues of many species of wild animals in North America. There is no evidence yet of their presence in British wildlife. It is believed that the biphenyls may be equally responsible with DDT for the catastrophic decline in the peregrine, osprey, bald eagle and other birds of prey. (*The Times*, December 17)."

"Birds of Prey Rescued. Of 86 injured birds of prey mostly tawny and barn owls, kestrels and buzzards, brought to Dr. L. H. Hurrell's Birds of Prey Rescue Scheme in Devon between 1963 and 1966, half were cured and successfully released back into the wild. (*Journal*, Devon Trust for N. C., December)."

"Eagles in Norway. The Norwegian Government has given complete protection to both the sea eagle and the golden eagle throughout the whole of Norway. This marks the culmination of a long campaign by the Norwegian Section of ICBP to break down the traditional opposition of the farming community to these birds."

". . . and Finland. The golden eagle is steadily decreasing in Finland. Even since protection was extended to the whole country in 1962, the population has fallen from an estimated 150-200 to no more than about 100 pairs. The main threats to the species are habitat destruction, the felling of forests, and direct attack by reindeer keepers, some 200 of whom carry a legal permit to kill golden eagles. (*Suomen Luonto*, No. 4, 1968)."

"Bounty Rescinded. The Western Australian Agriculture Protection Board has abolished the bounty on the wedge-tailed eagle throughout the state, and has also lifted the declaration of vermin of this threatened bird in the agricultural areas and part of the pastoral areas. The wedge-tailed eagle, however, is still deprived of legal protection in Western Australia. (*W. A. Fauna Bulletin*, September)."

NOTES ON A KANSAS GREAT HORNED OWL POPULATION

by Bruce Wolhuter
2109 Kentucky, Lawrence, Kansas 66044

This is a report of data from spring, 1968 studies of nesting Great Horned Owls. These studies were all conducted within a 35 mile radius of Lawrence, Kansas (NE corner of Kansas). The studies spanned a period from the end of January when the first birds were found incubating to the end of May when the last young bird was banded and had been fledged. Nine nests were kept under observation as frequently as possible. Anyone desiring more detailed information on these nest studies can write to the author.

I don't think the Horned Owls in this area were as successful as they were the last two years (spring 1966 and 1967). No three-egg clutches were found this year compared to the two found last year and there was one incidence each of an infertile egg and of a partially developed egg failing to hatch. The majority of the young owls were banded in the nest or several days after fledging (10 of 13 fledged). The data in tabular form are as follows:

<u>Nest #</u>	<u># eggs per clutch</u>	<u>Approx. date of hatching</u>	<u>Approx. date of fledging</u>	<u># fledged</u>
1	2	24 March	?*	2
2	2	2 March	30 March	1**
3	1	(Nest abandoned--egg failed to hatch)		
4	2	5 April	20 May	1
5	2	9 March	8 April	1
6	2	3 March	16 April	2
7	2	18 Feb.	7 April	2
8	2	***	27 April	2
9	2	28 March	15 May	2
				<u>13</u>

*Unable to locate young in area

**One young bird was removed at age 2 wks. to be hand raised

***Ca. last week in February by counting back

Data Interpretation. Using 30-32 days (majority of the literature seems to substantiate this incubation period in horned owls) and counting back from the hatching dates, we find that laying occurred from the 2nd or 3rd week of January through the 1st week of March. There seems to be a strong median period of egg-laying around the second week of February. The average number of eggs per clutch was 1.88. Thirteen young owls were fledged from sixteen eggs (81% fledging success not counting young bird taken from nest #2). Mortality was not due to any one predominant factor and the three deaths recorded were due to the following causes: 1) infertile egg; 2) punctured egg--embryo partially developed; 3) 4 week old young bird caught and strangled in a knot-hole of the nest cavity.

"BUMBLEFOOT"

by Fran Hamerstrom
Wisconsin Department of Natural Resources
Plainfield, Wisconsin

Mr. Schwartz (*Raptor Research News* 2(1);10-25, 1968) is to be congratulated for an experimental approach to testing cures for foot infections. My experience has been so different from his, in particular his statement that he believes that a wound virtually guarantees an infection. I have not found this to be the case.

My training is in biology with a veterinary minor, and throughout the years I have probably flown, held, nursed or hacked well over 100 raptors, and have seen my share of foot wounds. First let me describe the failures I can recall: a Rough-leg with porcupine quills, and a pole-trapped Horned Owl, had such serious foot infections that we could not save them.

One Golden Eagle I "treated" at Morley Nelson's suggestion. She had some nasty-looking corns. I daily gave her a human multi-vitamin pill and switched her from a beef heart to a varied diet. She recovered in about ten days. My usual treatment, which has been highly successful, has been as follows: leave the blood plug in the wound and keep the wound away from water--no bathing, or exposure to rain or snow. If the wound is on the bottom of the foot, I supply a fresh hay-bale perch. I was taught never to operate unless indicated and this training has stood me in good stead. It has worked.

RAPTOR RESEARCH FOUNDATION MEETING
WASHINGTON, D.C., MARCH 2-6, 1969

Report by Byron E. Harrell

The occasion of the North American Wildlife and Natural Resources Conference in Washington, D.C., in March 1969 provided an opportunity to have a concurrent meeting of the Foundation. Outside of the chance for informal discussion and the attendance at a National Audubon Society session on Peregrines, there were two scheduled events.

The first event was an informal gathering in the bird collection of the U. S. National Museum from 1 to 5 o'clock on Sunday, March 2. This session, announced as a "workshop," was an opportunity for about 15 or 20 of our members to examine specimens in the collections. Dr. Richard Zusi, Curator of Birds, had made the arrangements and was available for any of our needs.

The last event was a tour of Patuxent Wildlife Research Center from 9 a.m. to 2 p.m. on Thursday, March 6, especially in the divisions where work on raptors is being conducted. Some of our members had been out there earlier in the week. As it turned out, only six persons were able to go on Thursday, but it was very profitable for them. Richard Porter and Stanley Wiemeyer talked to us about their pesticide work and showed us the equipment for food preparation which for the large number of birds is a sizable operation. From there they took us out to the pens where the pairs of American Kestrels are kept and where some new large breeding cages for Bald Eagles and Peregrines are being constructed. The Rare and Endangered Species program was explained to us by Glen Smart. Although there was some preliminary work, the program primarily dates from 1966 and now consists of a staff of 22 working in three sections. This is a Laboratory Investigation section involved in basic research including a research veterinarian in the nutrition field and a reproduction physiologist. They hope to get involved with pathology and behavior as well. The Ecology section is involved with field work with emphasis on habitat and determining and alleviating limiting factors. The Propagation section is involved with captivity breeding to produce, condition, and release species for reintroduction where now exterminated such as has now begun with the Masked Bob-white. We visited some of their pens and in addition to a number of non-raptors saw their Peregrines, Merlins, and Bald Eagles. These projects are just starting and the birds are still in temporary facilities. It was too early in the season for the Snail Kites to be out, and the Andean Condors we only saw at a distance. At the Bird Banding Laboratory we talked to Earl Baysinger, Larry Hood, and Jim Ruos. Many of the problems of the Laboratory were discussed and a tour of the offices to see the processing procedures was undertaken. Such a visit would be very

profitable for any bander. In addition to the above, our members had further opportunities to talk with these or other personnel on raptor problems. Our thanks go to all those who helped out, and especially to Stan Wiemeyer who made most of the arrangements.

In addition to our meetings of special interest to Raptor Research Foundation members was a session on Peregrines scheduled by the National Audubon Society for Tuesday afternoon, March 4. Originally scheduled for 1 p.m. in a conference room which had about twenty chairs, the session was started with standing room only, but since there were more people outside in the hall, arrangements were made to move to another location. Although the acoustics were not very good, at least all of the 100 or so persons present had a seat. The meeting itself was not anticipated to last more than an hour or so, but it lasted several hours. Probably most of those in attendance were members of our organization or of the North American Falconers' Association. Your reporter attempted to take notes on the proceedings. The comments are paraphrased below as well as I could from these notes. Under the circumstances I am unable to vouch for the complete accuracy, but nevertheless, I feel that the account will give to those not present a fair idea of the nature of the discussions.

The session had been organized by, and was opened with a few remarks by Roland Clement, Vice President of the National Audubon Society. The Society was stimulated to consider the status of the Peregrine and its protection by reports last September that the take by trapping on the coast of Texas, Florida, Maryland, and elsewhere was anticipated to be heavy. At that time the Society sent a memorandum requesting a moratorium on trapping until the situation became clearer. Since that time there were many letters and this session was planned for the North American Wildlife and Natural Resources Conference in March 1969. The agenda with requested speakers was as follows:

- Tom Cade (Cornell University)--Status of populations of Peregrines.
- Joe Hickey (University of Wisconsin)--Background on effects of pesticides.
- Jim Enderson (Colorado College)--concern of North American Falconers' Association.
- Allan Studholm (Fish and Wildlife Service)--Outline of what we face in regulation, especially the problem of regulating the take of such species.
- Discussion period for other comments over each of these above topics.

Tom Cade stated that the Peregrine was a polytypic species consisting of 20 or 22 subspecies around the world. The species is nearly cosmopolitan, being found on all the continents except Antarctica, but the center in the Holarctic.

The species has become extinct in eastern United States where there formerly were 300 pairs. Everywhere south of Canada there is a reduction in breeding. The range in North America formerly found extended to the south to Tamaulipas and Baja California in Mexico, and north to Thule in Greenland and to 73-74°N in the Canadian arctic islands. Centers of population were in the Appalachians (now extinct) and on the west coast from Washington through British Columbia. In most of the interior, the species was a rather rare breeder and in the arctic tundra region there were good numbers which were highly migratory. The population in the Pacific Northwest and the Aleutians (the subspecies called Peale's Falcon) consists of fairly large numbers. Since the 1965 Peregrine Conference there seems to be no essential change, but those studied show high levels of pesticide in the birds and their eggs. Likewise the eggs are thinner, which is probably part of the same phenomenon.

Joe Hickey said that the Peregrine decline in Europe and North America was marked by a disease. In the breeding segment of the population in Ireland, Germany, and England, reproductive failure starting in 1947-1948 with no further change in breeders until the 50's when there were 4, 5, 6, or 7 years of breeding failure. Finland has gone from a population of 1000 to extinction and Switzerland will lose its population. The changes are first noted when juvenile birds appear at the eyrie; confirming a prediction in 1964 in Switzerland there were no young produced in 1968. (Juvenile birds are now at eyries in the Brooks Range in Alaska.) British observers have noted and documented broken eggs and eating of eggs. The Sun-Life Building Peregrines (Montreal) had broken eggs in 1947 and ate the eggs in 1948. Ratcliffe detected the thinning of egg shells in Peregrines and European Sparrow Hawks but not Golden Eagles. American data on Peregrines, some Bald Eagles, some Osprey indicate thinning of egg shells taking place in 1947 in California and Massachusetts. This effect is now known to be related to liver condition which breaks down steroids, including sex hormones and possibly vitamin D. This is especially an effect of DDE which concentrates into large quantities in higher trophic levels in the ecosystem. Concentrations have been noted in Herring Gulls, pelicans, Prairie Falcons, and others. Experiments with Mallard at Patuxent showed thinning of egg shells with 3 ppm of DDE.

Jim Enderson, who has a background as both ornithologist and falconer, spoke for N.A.F.A. The North American Falconers' Association is the only national falconry group and has 410 members, some of whom are avid devotees of Peregrines. These members are disturbed by the long-term prognosis and are anxious about future access to birds. There is a general feeling that as long as take is reasonable a small hopefully insignificant portion may be taken. The take in proportion to total production is small. N.A.F.A. is anxious to develop machinery so take can be controlled carefully.

Allen Studholm discussed some problems relative to law enforcement. The public often believes the way to solve a problem is to pass a law, but this is clearly not enough; the law must be acceptable before it is enforceable, and there must also be a means of control. Most of the states have laws that protect raptors, nearly all including Peregrines. A federal law might help but there are 6,000 or 7,000 state agents and only about 150 federal agents. The Lacey Act makes it a federal offense if birds taken illegally in one state are transported to another. Need more than an idea for effectiveness, but need specifics in order to enforce; in some areas the additional federal laws have helped. He also brought up the problem of strong states rights sentiment might make the passage currently very difficult.

Clement commented on the state laws, three of which protect no hawks or owls, six others only some raptors, and about half protect all hawks. He also mentioned the New York law for falconry regulation. John Aldrich commented on Cade's remarks and emphasized the need to know more about the movements of these populations; for example, are the migrants on the west coast Arctic or not; on the east coast the birds are probably Arctic.

There were some comments on perspective in research. Clement said there should be work on the coordination of pesticide assay to provide control to avoid wasted effort. Someone commented on the question of encouragement of breeding and the tricks of maintaining the birds while the pesticide clears out, estimated at 15-20 years. Ed Friley, a longtime Audubon member, asked about the Audubon Society policy on pesticides. Mention was also made of an industrial source of chlorinated hydrocarbons.

Enderson commented on the main thrust since the 1965 Peregrine conference. The over-all picture is not at all clear. The picture in the Latin American wintering grounds is not understood at all. Much of the movement data from banding is based on the work of persons keeping Peregrines. Hickey said Cade and he should get together and make a prediction. Data last year on Pacific procelleriforms showed them loaded with pesticides (large amount in oil); any Peregrine population exploiting petrels as in Baja California is in danger. A report in the *Canadian Field Naturalist* on the Queen Charlottes was thought conservative. Hickey did not feel any optimism that chlorinated hydrocarbons will stop in time to save the species from extermination for even with cessation of use the northern populations will be in danger for DDT will not be stopped for malaria farther south.

Cade also commented on pesticides and on Enderson's remarks. Perhaps remote pairs in the west and in populations feeding on seed eaters are safe, but he thought sea bird or shore bird feeders were doomed. Perhaps most of DDT obtained from winter range. In some areas DDT use is down but worldwide use is up. He is going back to Alaska the next two summers to look at changes.

Charles Callison, the Executive Vice President of the National Audubon Society, referred to an earlier question that their policy has clearly been against the chlorinated hydrocarbons since before Rachel Carson's "Silent Spring" and has been expressed at hearings of the USDA and of Congress, through editorials, and in many other ways. Another comment was made that we should be concerned with any pesticide that tends to cycle in the environment.

Dr. Dustman of the Patuxent Wildlife Research Center spoke on the work of this center of importance to raptors. He requested Dr. Porter and Mr. Wiemeyer to comment on the use of American Sparrow Hawks as experimental animals and also on the effects of combinations of DDT and dieldrin. He also mentioned work with eagles as indication of levels. In addition there is work on captivity breeding.

Dr. Porter spoke about experiments with heavy dosage levels in combinations, one group with 1 ppm dieldrin and 5 ppm DDT and the other 3 ppm dieldrin and 15 ppm DDT. The higher amounts were close to lethal for some of the birds died; the lower is close to a field level. The disappearance of eggs and eating of eggs were parts of reproductive failure. A significant difference in thickness of egg shells was observed, and also in second generation birds there was mortality following hatching.

A letter from Bob Risebrough on pesticide accumulation of marine birds was read. He did not think that pesticides would exterminate the Peregrine but thought that the levels were high enough to cause a stress so that they could not stand any pressure; he therefore recommended that they should be strictly protected.

Bill Huey from New Mexico said that this was one of the states without protection, and although after six years a bill was defeated new ground was broken and a group of followers has developed. He is quite concerned with the status of Prairie Falcons there; the Peregrine is rare.

Byron Harrell, President of the Raptor Research Foundation, spoke about the various lines of effort of this group. Since I took no notes on my own remarks, they are not reported here, but the regular reader of the *Raptor Research News* is familiar with their general nature.

Howard Leach of the California Fish and Game Department told about the falconry licensing in that state. In response to a request they send an application and the rules. The license cost \$15.00. Last October there was a prohibition on take of Prairie Falcons and Peregrines (they can be brought into the state, however). In a follow-up sent to licensed falconers, 113 replies were received reporting 60 Prairie Falcons and 47 Peregrines (the

only two raptors in the original regulations). He also commented on the Peregrines on Moro Rock which fledged three young this year. The local Audubon group had established a 24-hour protective watch of the nest.

A paragraph from the Risebrough letter was read. He suggested that all Peregrines in captivity should be marked with permanent bands and that trapping should be allowed only at a few specific localities to aid in regulation.

Richard Fyfe of the Canadian Wildlife Service reported some evidence of decline in Northwest Territories. He also mentioned the problem of isolated birds being able to maintain themselves. He showed a graph with data from Cade, Enderson, and Fyfe that indicated different dosages within the Arctic. Prairie Falcons in Alberta within 50 miles of each other had sharply different pesticide levels. In one Prairie nest the young were dead at four weeks. In response to a question from Hickey, the differences in the arctic dosages probably related to the food habits, those feeding on Lapland Longspur, Snow Bunting, and Harris Sparrow showing less pesticide. The high levels show up first in fish and bird eaters.

Porter asked Hickey a question and he said that it looks like the Peregrine populations are going all the way. In his last report, Dr. Ratcliffe thought that the declines should have stopped when dieldrin stopped but the populations are still sick. On the other hand Golden Eagles in the highlands recovered their good reproductions with reduction of DDT use in sheep dip.

Clement mentioned the decline in pesticide use. Although this was general there also tended to be an increase in others (as dieldrin). Dr. William Stickel of Patuxent said the trend in DDT use has fallen off rather sharply until last year, but the decrease was made up by dieldrin and toxophene. There was increase last year, but less domestic.

Enderson returned to the numbers of falconers with Peregrines. California was already mentioned. In Pennsylvania there are 36 licensed falconers with six Peregrines and four for scientific purposes. Berry said that in Colorado with 20-30 falconers there are less than a dozen Peregrines, some about five years old. Meng said there were around a dozen in New York. Enderson said responsible falconers were interested in controlled take. Clement felt something could be worked out. Someone commented we should know sex and age when taken. Jim Rice mentioned the Maryland migrant population the annual capture is 37; one year out of 24 taken 16 were banded. Cleaver said that we need information on commercial trapping; some kinds advertised for sale had not yet been caught. Mention was made of a *San Francisco Chronicle* ad quoting \$400 for

a Peregrine and \$1100 for a Goshawk. Fyfe said there were never more than one or two passage birds trapped per year and noted that British Columbia was at least trying hard to control the take from the Queen Charlottes. Hickey inquired on the age ratio at Assateague.

A local falconer said this year of 70-80 Peregrines seen on the dunes close enough to tell there were 5.7 adults to 1 young. From Cape May to Cape Hatteras there are about a dozen persons banding. Someone commented that over a 10-year period, birds caught averaged 83% adult. A question about the Bird Banding Laboratory was turned over to its Director, Earl Baysinger. He said that his office was not in a position to do research on the material. He also said that statements that they were anti-banding were not true, provided that persons maintain and submit decent records.

Chandler Robbins commented that for most species we do not have information from year to year and discussed the beginning of a bird population survey. They hope to do something with winter birds. He stressed the importance of basing the data on some sort of random sampling.

At this point the meeting had lasted longer than the Chairman had anticipated, but there was unanimous agreement to continue, following a break.

Jim Enderson made some comments on behalf of N.A.F.A. Falconry as a sport is one of small numbers. Probably below 200 fly Peregrines. Falconers are usually interested in the species they use. Since N.A.F.A. has a voluntary membership, a rigid control of its members is unlikely and since any control over non-members is impossible, regulation should be outside of N.A.F.A. N.A.F.A. guidelines for falconry regulation have been used in nearly half of the states. New York and Colorado are considering or adopting laws. However, states have shown little interest in Peregrines as a species. Can 48 states do anything individually meaningful on a species like this? It is not likely except for problems such as at Moro Bay that are well defined. How could a system be developed? It is a question of commercialism. Apparently not important on eastern seaboard where old falconers know what is going on. There are ads in sporting goods magazines. Here Oklahoma has not moved but Colorado does (there it is illegal to buy and sell). Several other comments were made. Cleaver questioned what to do except agitate for laws that we want as the New York law. If no state laws, then need federal law, but that is difficult to implement. Hickey was not sure N.A.F.A. can't do it. A migratory species cannot be controlled at a state level. Federal regulation involves bureaucracy, not too happy a solution. Stanley Marcus, N.A.F.A. Secretary, mentioned a couple of problems--lack of police power to run enforcement and lack of funding to do entire research job. Many contribute time and money but not enough funding to develop in depth. Ham

radio licensing might be a model. He also mentioned problem of commercialism and shooting, the latter states cannot control. Enderson thought not all insurmountable. Someone said certain areas can be controlled. Northwest Territories controls the take, but other areas not. Falconers are interested in breeding program as a supply. Some are interested in reintroductions. Others think should be reasons for taking, insist birds for breeding be treated distinctly from time of taking. Jim Grier mentioned the problem of flying to increase chance of reproduction.

Clement mentioned the work of the National Audubon Society in the raptor field. They have always been concerned as indicated by publishing May's book. They have also tried to increase the list of states which protect raptors. Six years ago they became very concerned about the future of the Bald Eagle and hope to summarize some of this soon. The Society helped to pass the law on Golden Eagle and are now working with sheep people to sponsor research. Sprunt would like to do more. A registry might be possible.

Hickey said there was a broad spectrum in pen keeping a falcon. There is a problem of the fringe of falconry. If not the states, what kind of federal regulations can be lived with. Peregrines are surrounded by suspicion. What can be done by N.A.F.A.? He also talked about population recording, the need for cooperators, and putting it on a biologically sound basis. Perhaps areas at five-year periods in sample areas in the Canadian arctic. Population indices can be used in the U. S. as by Rice mentioned earlier, and Berger and Mueller on Wisconsin shores who estimated back into the 1930's. There are changes in a five-year looping average which does not appear in the Duluth hawk pass. Peale's Falcons also need attention as well as birds in Baja California.

Fyfe said some estimates are based on habitat but prey abundance varies very widely. Bathurst Inlet is a site set up for a sampling area this year. Additional prairie areas, and an area for Bald Eagle in northern Saskatchewan were set up. Donald Blood and Fyfe will try to do a good survey of the Queen Charlottes. Prairie Falcons are also receiving attention; that situation is not bright. In response to an earlier remark there is cooperation in the pesticide work between the Canadians and Patuxent. He also commented that the Raptor Research Foundation has often been left out of remarks, but all of this is their purpose.

Hickey came back to the problems of surveys. Cade commented that money to do all that is required will take dough. There are some old areas, but we need additions. He also said breeding projects should be encouraged. Porter's results have been good, a major breakthrough, for experimental birds can reproduce in small areas equal in productivity to wild Sparrow Hawks. The step from Sparrow Hawks to larger falcons is a big step but important

especially if pessimism is accurate. Hickey asked whether this should be at amateur or professional level; Cade answered both. Patuxent has a number already. Cade mentioned some individual birds work better than others. Porter commented on conditions for birds to avoid hurting themselves. He had little trouble with Kestrels in pairing. Meng has had two Peregrines for five years, which are fed fresh pigeons and also some Peale's which are fairly tame, but no results. Henry Kendall has bred Prairie Falcons. Last year Larry Schram in Washington state and several in Germany did have success with Peregrines.

Clement mentioned the problem of the pet keeper and eliminating it by licensing. He also noted the cooperation in developing the New York law, and finally the need for more money. Meng commented that all these studies are all right but what about chlorinated hydrocarbons. Clement got a laugh when he said "we are underhanded" but he quickly changed that to undermanned, not enough staff to push it far enough.

Carl Buchheister, President Emeritus of the National Audubon Society, also commented on the amount of chlorinated hydrocarbons sold in the U. S., but that the *Wall Street Journal* had today (March 2, 1969) a large article on Wisconsin legislation on pesticides. Another person commented on the possibility of Federal protective legislation; he also felt the states would follow suit.

A final remark was made by Marcus who said the falconers came loaded for bear and were pleased to find such a good tone of the meeting.

RAPTOR RESEARCH FOUNDATION, INC.

HISTORY AND BACKGROUND

All life on the planet is, and perhaps always has been subjected to stresses caused by environmental changes. Our era seems to be one of accelerated changes due, in no small part, to very rapid expansion of human populations and influences.

That environmental modification by human activities is seriously threatening many species of wildlife is well recognized. High on the list of threatened species are several of our raptors. Recognizing that most wildlife is moving into a period of management by man and that its future will depend upon the efficacy of that management, a group especially interested in birds of prey incorporated Raptor Research Foundation in 1966.

PURPOSE

The Raptor Research Foundation was formed to fulfill a need for facts. There are relatively large areas in the biology of birds of prey in which little or no research has been done. There is strong evidence that some species of raptors are not adjusting to environmental changes and are in serious danger of extinction. It therefore seems imperative that the most efficacious means of quickly gaining the necessary knowledge to avert such extinction be immediately pursued. It is thought that an organizational approach to coordination of efforts is the best means. This approach is the immediate purpose of the Raptor Research Foundation.

STRUCTURE

The Raptor Research Foundation is a non-profit corporation whose purpose is to stimulate, coordinate, direct, and conduct research in the biology and management of birds of prey, and to promote a better public understanding and appreciation of the value of these birds.

The business of the Foundation is conducted by a Board of Directors with the advice of an Advisory Board. This Advisory Board was elected by the Board of Directors in an attempt to bring together all interests in birds of prey. The Advisory Board includes ornithologists specializing in ecology, ethology, taxonomy, physiology, paleontology, parasitology, etc., wildlife managers, veterinarians, and falconers.

ACTIVITIES

Activities which use the name of Raptor Research Foundation must have the prior approval of the Board of Directors.

A major activity to date is the publication of RAPTOR RESEARCH NEWS which appears quarterly. In addition to extensive news on work with raptors, several articles on various types of raptor research have been included.

In order to develop the work of the Foundation, committees have been set up. These are as follows:

1. EDITORIAL COMMITTEE. Editing of RAPTOR RESEARCH NEWS or any other publications.
2. CAPTIVITY BREEDING COMMITTEE. Will coordinate breeding projects of cooperators and issue the B.P.I.E. (Breeding Project Information Exchange), aimed at eventual development of successful breeding techniques.
3. RAPTOR POPULATION COMMITTEE. Will coordinate activities and data of cooperators in various areas to assess changes in raptor populations.
4. RAPTOR BANDING COMMITTEE. To coordinate activities of raptor banders, aid in solution of problems of cooperators, and maintain a liaison with the banding offices.
5. BIO-TELEMETRY COMMITTEE. To exchange information of investigators using this technique.
6. RAPTOR PATHOLOGY COMMITTEE. To assemble information on diseases and injuries and their treatment in raptors.
7. PESTICIDE COMMITTEE. Monitor information on the level of pesticides in raptors and investigate effects of such poisoning.
8. RAPTOR ECOLOGY AND ETHOLOGY COMMITTEE.
9. RAPTOR PHYSIOLOGY and ANATOMY COMMITTEE.
10. RAPTOR TAXONOMY COMMITTEE.
11. EDUCATION AND CONSERVATION COMMITTEE. To collect and distribute information on the preservation of raptors.
12. BIBLIOGRAPHY COMMITTEE. Recording of published references pertinent to raptor research.
13. MEMBERSHIP COMMITTEE. To contact potential members.
14. INTERNATIONAL COORDINATION COMMITTEE. Maintain a liaison with raptor workers on other continents.
15. FINANCE AND INVESTMENT COMMITTEE. Work on the financial support of the Foundation.